

Attorney Docket No. 05725.0844
Application No.: 09/820,858

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A composition for durable conditioning of at least one keratinous fiber comprising:

(a) at least one compound comprising at least two quaternary ammonium groups;
and

(b) at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group,

wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group are present in an amount effective to durably condition said at least one keratinous fiber,

with the proviso that if the at least one compound comprising at least one C₅ to C₇ saccharide unit is chosen from polysaccharides, then the ~~at least one amino group is~~ groups are unsubstituted.

2. (original) A composition according to claim 1, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.

3. (original) A composition according to claim 2, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.

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4. (original) A composition according to claim 1, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent ammonium groups which are quaternized, substituent amino groups capable of being quaternized, ammonium groups which are quaternized which form part of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

5. (original) A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from said at least one monomer (i); and

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

6. (currently amended) A composition according to claim 5, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

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- ~~derivatives of polysaccharide~~ polymers comprising at least two quaternary ammonium groups; and

- silicone polymers comprising at least two quaternary ammonium groups.

7. (currently amended) A composition according to claim 6, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic ~~starch derivatives~~ starches comprising at least two quaternary ammonium groups;

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- cationic guar ~~gum derivatives~~ gums comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

8. (original) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16; polyquaternium-11; quaternized poly(vinylamine); quaternized poly-4-vinyl pyridine; quaternized poly(ethyleneimine); polyquaternium-6; polyquaternium-7; polyquaternium-22; polyquaternium-39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

9. (original) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

10. (withdrawn) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-22.

11. (withdrawn) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is poly(ethyleneimine).

12. (withdrawn) A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is quaternized starch.

13. (original) A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

14. (original) A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an

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amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

15. (original) A composition according to claim 14, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

16. (original) A composition according to claim 1, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

17. (original) A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is further substituted with at least one group different from said at least one amino group.

18. (original) A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

19. (original) A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

20. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from C₅ monosaccharides substituted with at least one amino group, C₆ monosaccharides substituted with at least one amino group, C₇ monosaccharides substituted with at least one amino group, polymers comprising at least one C₅ monosaccharide substituted with at least one amino group, polymers

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comprising at least one C₆ monosaccharide substituted with at least one amino group, polymers comprising at least one C₇ monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

21. (withdrawn) A composition according to claim 20, wherein said C₅ monosaccharides substituted with at least one amino group are chosen from pentosamines.

22. (withdrawn) A composition according to claim 21, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

23. (withdrawn) A composition according to claim 22, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

24. (original) A composition according to claim 20, wherein said C₆ monosaccharides substituted with at least one amino group are chosen from hexosamines.

25. (original) A composition according to claim 24, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

26. (original) A composition according to claim 25, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

27. (withdrawn) A composition according to claim 20, wherein said C₇ monosaccharides substituted with at least one amino group are chosen from heptosamines.

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28. (withdrawn) A composition according to claim 27, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

29. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from oligosaccharides derived from said at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

30. (withdrawn) A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is chosen from furanoses and derivatives thereof.

Claim 31. (cancelled).

32. (withdrawn) A composition according to claim 31, wherein said derivatives of C₅ to C₇ saccharide units are chosen from imine derivatives of C₅ to C₇ saccharide units, hemiacetal derivatives of C₅ to C₇ saccharide units, hemiketal derivatives of C₅ to C₇ saccharide units, and oxidized derivatives of C₅ to C₇ saccharide units.

Claim 33. (cancelled).

34. (withdrawn) A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from lyxosylamine.

35. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from glucosamine.

36. (withdrawn) A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from galactosamine.

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37. (original) A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

38. (original) A composition according to claim 37, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

39. (original) A composition according to claim 1, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

40. (original) A composition according to claim 39, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

41. (original) A composition according to claim 40, wherein said monosaccharides are chosen from hexoses.

42. (original) A composition according to claim 41, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

43. (original) A composition according to claim 39, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

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44. (original) A composition according to claim 43, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

45. (original) A composition according to claim 1, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

46. (original) A composition according to claim 1, wherein said at least one keratinous fiber is hair.

47. (original) A composition according to claim 1, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

48. (original) A composition according to claim 1, wherein said composition is heat-activated.

49. (withdrawn) A method for caring for or treating at least one keratinous fiber comprising:

applying to said at least one keratinous fiber a composition comprising:

(a) at least one compound comprising at least two quaternary ammonium groups;
and

(b) at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group; and
heating said at least one keratinous fiber,

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wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group are present in an amount effective to care for or treat said at least one keratinous fiber, and

further wherein said composition is applied prior to or during said heating.

50. (withdrawn) A method according to claim 49, further comprising wetting said at least one keratinous fiber with water prior to said application.

51. (withdrawn) A method according to claim 49, further comprising shampooing said at least one keratinous fiber subsequent to said heating.

52. (withdrawn) A method according to claim 51, further comprising rinsing said at least one keratinous fiber subsequent to said shampooing.

53. (withdrawn) A method according to claim 49, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.

54. (withdrawn) A method according to claim 53, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.

55. (withdrawn) A method according to claim 49, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent ammonium groups which are quaternized, substituent amino groups capable of being quaternized, ammonium groups which are quaternized which form part

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of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

56. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from said at least one monomer (i); and

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

57. (withdrawn) A method according to claim 56, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

- derivatives of polysaccharide polymers comprising at least two quaternary ammonium groups; and

- silicone polymers comprising at least two quaternary ammonium groups.

58. (withdrawn) A method according to claim 57, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

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- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic starch derivatives comprising at least two quaternary ammonium groups;

- cationic guar gum derivatives comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

59. (withdrawn) A method according to claim 58, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16; polyquaternium-11; quaternized poly(vinylamine); quaternized poly-

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4-vinyl pyridine; quaternized poly(ethyleneimine); polyquaternium-6; polyquaternium-7; polyquaternium-22; polyquaternium-39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

60. (withdrawn) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

61. (withdrawn) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-22.

62. (withdrawn) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is poly(ethyleneimine).

63. (withdrawn) A method according to claim 59, wherein said at least one compound comprising at least two quaternary ammonium groups is quaternized starch.

64. (withdrawn) A method according to claim 40, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

65. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

66. (withdrawn) A method according to claim 65, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

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67. (withdrawn) A method according to claim 49, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

68. (withdrawn) A method according to claim 49, wherein said at least one C₅ to C₇ saccharide unit is further substituted with at least one group different from said at least one amino group.

69. (withdrawn) A method according to claim 49, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

70. (withdrawn) A method according to claim 49, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

71. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from C₅ monosaccharides substituted with at least one amino group, C₆ monosaccharides substituted with at least one amino group, C₇ monosaccharides substituted with at least one amino group, polymers comprising at least one C₅ monosaccharide substituted with at least one amino group, polymers comprising at least one C₆ monosaccharide substituted with at least one amino group, polymers comprising at least one C₇ monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

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72. (withdrawn) A method according to claim 71, wherein said C₅ monosaccharides substituted with at least one amino group are chosen from pentosamines.

73. (withdrawn) A method according to claim 72, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

74. (withdrawn) A method according to claim 73, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

75. (withdrawn) A method according to claim 71, wherein said C₆ monosaccharides substituted with at least one amino group are chosen from hexosamines.

76. (withdrawn) A method according to claim 75, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines,

77. (withdrawn) A method according to claim 76, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

78. (withdrawn) A method according to claim 71, wherein said C₇ monosaccharides substituted with at least one amino group are chosen from heptosamines.

79. (withdrawn) A method according to claim 78, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

80. (withdrawn) A composition according to claim 49, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one

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amino group is chosen from oligosaccharides derived from said at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

81. (withdrawn) A composition according to claim 49, wherein said at least one C₅ to C₇ saccharide unit is chosen from furanoses and derivatives thereof.

82. (withdrawn) A composition according to claim 49, wherein said at least one C₅ to C₇ saccharide unit is chosen from derivatives of C₅ to C₇ saccharide units.

83. (withdrawn) A composition according to claim 82, wherein said derivatives of C₅ to C₇ saccharide units are chosen from imine derivatives of C₅ to C₇ saccharide units, hemiacetal derivatives of C₅ to C₇ saccharide units, hemiketal derivatives of C₅ to C₇ saccharide units, and oxidized derivatives of C₅ to C₇ saccharide units.

84. (withdrawn) A composition according to claim 82, wherein said derivatives of C₅ to C₇ saccharide units are further substituted with at least one group different from said at least one amino group.

85. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from lyxosylamine.

86. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from glucosamine.

87. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from galactosamine.

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88. (withdrawn) A method according to claim 49, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

89. (withdrawn) A method according to claim 88, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

90. (withdrawn) A method according to claim 49, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group and derivatives thereof.

91. (withdrawn) A method according to claim 90, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

92. (withdrawn) A method according to claim 91, wherein said monosaccharides are chosen from hexoses.

93. (withdrawn) A method according to claim 92, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

94. (withdrawn) A method according to claim 90, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

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95. (withdrawn) A method according to claim 94, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

96. (withdrawn) A method according to claim 49, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

97. (withdrawn) A method according to claim 49, wherein said keratinous fiber is hair.

98. (withdrawn) A method according to claim 49, wherein said composition further comprises at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

99. (withdrawn) The method according to claim 49, wherein said composition is applied prior to and during said heating.

100. (withdrawn) A method for durably conditioning at least one keratinous fiber comprising: applying to said at least one keratinous fiber a composition comprising:

(a) at least one compound comprising at least two quaternary ammonium groups;
and

(b) at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group; and
heating said at least one keratinous fiber,

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wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group are present in an amount effective to durably condition said at least one keratinous fiber, and

further wherein said composition is applied prior to or during said heating.

101. (withdrawn) A method according to claim 100, further comprising wetting said at least one keratinous fiber with water prior to said applying.

102. (withdrawn) A method according to claim 100, further comprising shampooing said at least one keratinous fiber subsequent to said heating.

103. (withdrawn) A method according to claim 102, further comprising rinsing said at least one keratinous fiber subsequent to said shampooing.

104. (withdrawn) A method according to claim 100, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.

105. (withdrawn) A method according to claim 104, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.

106. (withdrawn) A method according to claim 100, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent ammonium groups which are quaternized, substituent amino groups capable of being quaternized, ammonium groups which are quaternized which form part

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of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

107. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from said at least one monomer (i); and
- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

108. (withdrawn) A method according to claim 107, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;
- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;
- derivatives of polysaccharide polymers comprising at least two quaternary ammonium groups; and
- silicone polymers comprising at least two quaternary ammonium groups.

109. (withdrawn) A method according to claim 108, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

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- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic starch derivatives comprising at least two quaternary ammonium groups;

- cationic guar gum derivatives comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

110. (withdrawn) A method according to claim 109, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16; polyquaternium-11; quaternized poly(vinylamine); quaternized poly-

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4-vinyl pyridine; quaternized poly(ethyleneimine); polyquaternium-6; polyquaternium-7; polyquaternium-22; polyquaternium-39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

111. (withdrawn) A method according to claim 110 wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

112. (withdrawn) A method according to claim 110, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-22.

113. (withdrawn) A method according to claim 110, wherein said at least one compound comprising at least two quaternary ammonium groups is poly(ethyleneimine).

114. (withdrawn) A method according to claim 110, wherein said at least one compound comprising at least two quaternary ammonium groups is quaternized starch.

115. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

116. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

117. (withdrawn) A method according to claim 116, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

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118. (withdrawn) A method according to claim 100, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

119. (withdrawn) A method according to claim 100, wherein said at least one C₅ to C₇ saccharide unit is further substituted with at least one group different from said at least one amino group.

120. (withdrawn) A method according to claim 100, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

121. (withdrawn) A method according to claim 100, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

122. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from C₅ monosaccharides substituted with at least one amino group, C₆ monosaccharides substituted with at least one amino group, C₇ monosaccharides substituted with at least one amino group, polymers comprising at least one C₅ monosaccharide substituted with at least one amino group, polymers comprising at least one C₆ monosaccharide substituted with at least one amino group, polymers comprising at least one C₇ monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

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123. (withdrawn) A method according to claim 122, wherein said C₅ monosaccharides substituted with at least one amino group are chosen from pentosamines.

124. (withdrawn) A method according to claim 123, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

125. (withdrawn) A method according to claim 124, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

126. (withdrawn) A method according to claim 122, wherein said C₆ monosaccharides substituted with at least one amino group are chosen from hexosamines.

127. (withdrawn) A method according to claim 126, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

128. (withdrawn) A method according to claim 127, wherein said hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

129. (withdrawn) A method according to claim 122, wherein said C₇ monosaccharides substituted with at least one amino group are chosen from heptosamines.

130. (withdrawn) A method according to claim 129, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

131. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one

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amino group is chosen from oligosaccharides derived from said at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

132. (withdrawn) A method according to claim 100, wherein said at least one C₅ to C₇ saccharide unit is chosen from furanoses and derivatives thereof.

133. (withdrawn) A method n according to claim 100, wherein said at least one C₅ to C₇ saccharide unit is chosen from derivatives of C₅ to C₇ saccharide units.

134. (withdrawn) A method according to claim 133, wherein said derivatives of C₅ to C₇ saccharide units are chosen from imine derivatives of C₅ to C₇ saccharide units, hemiacetal derivatives of C₅ to C₇ saccharide units, hemiketal derivatives of C₅ to C₇ saccharide units, and oxidized derivatives of C₅ to C₇ saccharide units.

135. (withdrawn) A method according to claim 134, wherein said derivatives of C₅ to C₇ saccharide units are further substituted with at least one group different from said at least one amino group.

136. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from lyxosylamine.

137. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from glucosamine.

138. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from galactosamine.

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139. (withdrawn) A method according to claim 100, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

140. (withdrawn) A method according to claim 139, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

141. (withdrawn) A method according to claim 100, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group and derivatives thereof.

142. (withdrawn) A method according to claim 141, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

143. (withdrawn) A method according to claim 142, wherein said monosaccharides are chosen from hexoses.

144. (withdrawn) A method according to claim 143, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

145. (withdrawn) A method according to claim 141, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01 % to 10% by weight relative to the total weight of the composition.

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146. (withdrawn) A method according to claim 145, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

147. (withdrawn) A method according to claim 100, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

148. (withdrawn) A method according to claim 100, wherein said keratinous fiber is hair.

149. (withdrawn) A method according to claim 100, wherein said composition further comprises at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

150. (withdrawn) A method according to claim 100, wherein said composition is applied prior to and during said heating.

Claims 151-152. (cancelled).